

What is claimed is:

- 1 1. A pulley for a pulley and belt transmission system, the belt having grooves defined by
2 a series of angled faces, the faces having a groove pitch angle, comprising:
3 a pulley face;
4 a plurality of teeth, having a plurality of pulley tips, circumferentially around the pulley
5 face, defined by a series of angled walls, the walls having a pulley pitch angle less than the
6 groove pitch angle; and,
7 at least one surface gap across the plurality of teeth.
- 1 2. The pulley of claim 1, wherein the pulley pitch angle comprises from about one degree
2 to about 10 degrees less than the groove pitch angle.
- 1 3. The pulley of claim 2, wherein the pulley pitch angle comprises from about two
2 degrees to about 8 degrees less than the groove pitch angle.
- 1 4. The pulley of claim 3, wherein the pulley pitch angle comprises about five degrees
2 less than the groove pitch angle.
- 1 5. The pulley of claim 4, wherein the pulley tip comprise a flattened shape. -
- 1 6. The pulley of claim 1, wherein the at least one surface gap comprises a plurality of
2 grooves, at an angle to the plurality of teeth, through the pulley face.
- 1 7. The pulley of claim 6, from about two to about twenty grooves through the pulley
2 face.
- 1 8. The pulley of claim 7, further comprising two pulley sides, the pulley face
2 therebetween, having at least one hole drilled through one of the pulley sides, the at least one
3 hole positioned beneath the pulley face.

1 9. The pulley of claim 8, comprising a number of hole pairs drilled through the pulley
2 sides about equal to the number of grooves through the pulley face.

1 10. The pulley of claim 9, wherein the hole pairs comprise a position proximate to the
2 grooves through the pulley face.